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EXAMINER

KEEFER, MICHAEL E

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

1. This Office Action is responsive to the RCE filed 12/5/2008.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liang et al. (US 7299216), hereafter Liang, in view of Ardoin et al. (US 6292804), hereafter Ardoin further in view of Yokoyama (US 20030103073).

Regarding **claim 1**, Liang discloses:

A method for transforming data comprising:

extracting data comprising a plurality of rows wherein each row comprises at least one column from at least one external data source; (extracting data is well known in the art, this is disclosed by Col. 1 lines 29-31)

storing the data in a buffer; (Col. 5 lines 61-64 disclose a temporary staging area, i.e. a buffer)

the first component to transform the data apply a first transform to the at least one column in the plurality of rows; (transforming data is well known in the art as disclosed by Col. 1 lines 31-34)

the second component to apply a second transform to the at least one column in the plurality of rows; and (transforming data is well known in the art as disclosed by Col. 1 lines 31-34)

loading the data from the buffer to at least one database table external data destination. (loading data is well known in the art as disclosed by Col. 1 lines 34-36)

Liang discloses all the limitations of claims 1, 16, and 23 except for using pointers to refer to the buffer, and passing the pointers to the functions to allow the buffered data to be accessed and modified.

The general concept of passing pointers to functions to allow them to directly access data is well-known in the art as taught by Ardoin. (See Col. 39 lines 55-62 which describe the use of pointers)

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Liang with the general concept of passing pointers to functions to allow them to directly access data as taught by Ardoin in order to make the system more versatile.

Liang and Ardoin teach all the limitations of claims 1, 16, and 23 but do not explicitly state that the data is not moved while being converted.

The general concept of converting data without moving it is well-known in the art as taught by Yokoyama. (See at least the abstract "file is converted without moving the media data.")

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Liang and Ardoin with the general concept of converting data without moving it as taught by Yokoyama in order to make the system more modular.

Regarding **claim 11**, Liang discloses:

Claim 11 recites substantially the same limitations as claim 1, except adding in the idea that the first component feeds into the second component, and so on. Liang discloses using pipelining of ETL functions, see Col. 2 lines 47-67.

Liang discloses all the limitations of claim 11 except for using pointers to refer to the buffer, and passing the pointers to the functions to allow the buffered data to be accessed and modified.

The general concept of passing pointers to functions to allow them to directly access data is well-known in the art as taught by Ardoin. (See Col. 39 lines 55-62 which describe the use of pointers)

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Liang with the general concept of passing pointers to functions to allow them to directly access data as taught by Ardoin in order to make the system more versatile.

Liang and Ardoin teach all the limitations of claim 11 but do not explicitly state that the data is not moved while being converted.

The general concept of converting data without moving it is well-known in the art as taught by Yokoyama. (See at least the abstract “file is converted without moving the media data.”)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Liang and Ardion with the general concept of converting data without moving it as taught by Yokoyama in order to make the system more modular.

Regarding **claim 12**, Liang discloses:

Transforming the data value of a cell. (See col. 1 lines 31-34 which teach the converting of data values as transformation)

4. **Claims 13-14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Liang, Ardoin, and Yokoyama as applied to claim 11 above, and further in view of Arnold (US 5535378).

Liang, Ardoin, and Yokoyama teach all the limitations of claims 13-14 except for wherein the transformation object transforms the data by sorting the data via swapping at least two pointers.

The general concept of sorting an array of data by swapping pointers is well known in the art as taught by Arnold. (See Col. 3 line 56 - Col. 4 line 24)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Liang, Ardoin, and Yokoyama with the general concept of sorting an array of data by swapping pointers as taught by Arnold in order to make the sorting faster and more efficient.

5. **Claim 15** is rejected under 35 U.S.C. 103(a) as being unpatentable over Liang, Liang, Ardoin, Yokoyama and Arnold as applied to claims 11 and 13 above, and further in view of Furusho (WO01/38967) (The Examiner is using Furusho US 6886082, the

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national stage entry of this PCT application as a provisional English translation of this Japanese document).

Liang, Ardoin, Yokoyama and Arnold teach all the limitations of claim 15 except for wherein the transformation object transforms the data by initializing at least two more arrays to point to select elements of said data.

The general concept of using arrays of pointers to split arrays is well known in the art as taught by Furusho (see Col. 28 lines 14-32 of '082).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Liang, Ardoin, Yokoyama and Arnold with the general concept of using arrays of pointers to split arrays as taught by Furusho in order to make full use of bus bandwidth.

6. **Claims 3-4** are rejected under 35 U.S.C. 103(a) as being unpatentable over Liang, Ardoin, and Yokoyama as applied to claim 1 above, and further in view of Desai et al. (US 6567816), hereafter Desai.

Liang, Ardoin, and Yokoyama teach all the limitations of claims 3-4 except for wherein a memory location corresponding to a start of a specific row is determined as a function of a row reference number and a row width indicative of a memory offset corresponding to said start of said specific row and wherein a memory location corresponding to a start of a specific column in a specific row is determined as a function of a row reference number and a row width plus a column offset indicative of a memory offset corresponding to said start of said specific column in said specific row.

The general concept of using offsets and lengths to determine memory locations of specific places within an array is well known in the art as taught by Desai. (see at least Col. 5 lines 19-33 and Col. 6 lines 3-27)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Liang, Ardoin, and Yokoyama to include the general concept of using offsets and lengths to determine memory locations of specific places within an array as taught by Desai in order to decrease processing time.

7. Claims 5, and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liang, Ardoin, and Yokoyama as applied to claim 1 above, and further in view of MacInnis et al. (US 2003/0219072), hereafter MacInnis.

Regarding **claims 8-9**, Ardoin teaches creating pointers and passing pointers to functions or components.

Liang, Ardoin, and Yokoyama teach all the limitations of claims 5 and 8-9 except for wherein the first set of pointers point to the beginning of the rows.

The general concept of creating a set of pointers pointing to the beginning of rows is well known in the art as taught by MacInnis. (see at least claim 20, which teaches the finding of the beginning of rows)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Liang, Ardoin, and Yokoyama with the general concept of creating a set of pointers pointing to the beginning of rows as taught by MacInnis in order to make the system more robust.

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8. **Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over Liang, Ardoin, Yokoyama, and MacInnis as applied to claims 1 and 5 above, and further in view of Desai.

Liang, Ardoin, Yokoyama and MacInnis teach all the limitations of claim 6 except for wherein the step of establishing first set of pointers that point to the beginning of the rows comprising the sub-step of determining the beginning of a row as a function of the row number and the row width.

The general concept of using offsets and lengths to determine memory locations of specific places within an array is well known in the art as taught by Desai. (see at least Col. 5 lines 19-33 and Col. 6 lines 3-27)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Liang, Ardoin, Yokoyama and MacInnis to include the general concept of using offsets and lengths to determine memory locations of specific places within an array as taught by Desai in order to decrease processing time.

9. **Claim 10** is rejected under 35 U.S.C. 103(a) as being unpatentable over Liang, Ardoin, Yokoyama and MacInnis as applied to claims 1, 5, and 8-9 above, and further in view of Furusho.

Liang, Ardoin, Yokoyama and MacInnis teach all the limitations of claim 10 except for the first component receiving the first set of pointers, the second set of pointers, and the third set of pointers; the first component traversing each row via the first set of pointers; for each row, the first component designating each row as either a first path row or a second path row based on a criteria for splitting

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said data; for each first path row, assigning a pointer from the second set of pointers to point at each such first path row; for each second path row, assigning a pointer from the third set of pointers to point at each such second path row; and returning the second set of pointers and the third set of pointers.

The general concept of using arrays of pointers to split arrays is well known in the art as taught by Furusho (see Col. 28 lines 14-32 of '082).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Liang, Ardoin, Yokoyama and MacInnis with the general concept of using arrays of pointers to split arrays as taught by Furusho in order to make full use of bus bandwidth.

Claims 16, 18-23, and 25-29 recite substantially the same limitations as claims 1, 3-6 and 8-10 and thus are rejected for the same reasons.

Response to Arguments

10. Applicant's arguments with respect to claims 1, 3-6, 8-10, 11-16, 18-23, and 25-29 have been considered but are moot in view of the new ground(s) of rejection.

11. The examiner does not agree that the previous motivation stated for the combination of Liang and Ardoin is gleaned from applicant's disclosure. Applicant does not discuss using less memory as being a benefit of the invention, merely stating broadly that 'unnecessary coping is both inefficient and can lead to data inconsistencies'.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL E. KEEFER whose telephone number is (571)270-1591. The examiner can normally be reached on Monday through Friday 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (571) 272-1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MEK 8/30/2009

/Nathan J. Flynn/

Supervisory Patent Examiner, Art Unit 2454